What we claim is,

1. An optical communication device comprising:

a substrate;

at least one light guide provided on the substrate for guiding signal light;

at least one optoelectronic device chip mounted upon the substrate; and

a detection light reflecting grating formed on the light guide which reflects detection light of a wavelength $\lambda 3$ different from the signal light and leads the signal light.

2. The optical communication device according to Claim 1, wherein the light guide is a silica (SiO_2) optical fiber mounted upon the substrate and the detection light reflecting grating is formed upon the optical fiber.

3. The optical communication device according to Claim 1, wherein the substrate is a silicon substrate or a SiO_2-glass substrate, the light guide is a SiO_2 type light waveguide produced upon the silicon substrate or the SiO_2-glass substrate and the detection light reflecting grating is formed upon the SiO_2 type light waveguide.

4. The optical communication device according to Claim 1, wherein the substrate is a plastic substrate made of a polymer, the light guide is a plastic light waveguide produced upon the plastic substrate and the detection light reflecting grating is formed upon the plastic light waveguide.

5. The optical communication device according to Claim 1, wherein a plurality of independent optical fibers with the detection light reflecting gratings are provided on the substrate and an optoelectronic device is allocated at an end of each of the optical fibers for exchanging a plurality of signals via a plurality of fibers.

6. The optical communication device according to Claim 1, wherein a plurality of independent light waveguides with the detection light reflecting gratings are provided on the substrate and an optoelectronic device is allocated at an end of each of the light waveguides

for exchanging a plurality of signals via a plurality of fibers.

7. The optical communication device according to Claim 5, wherein all the optoelectronic devices are PDs (photodiodes) for receiving a plurality of independent signals simultaneously.

8. The optical communication device according to Claim 5, wherein all the optoelectronic devices are LDs (laser diodes) for transmitting a plurality of independent signals simultaneously.

9. The optical communication device according to Claim 5, wherein m optoelectronic devices are LDs (laser diodes) for transmitting a plurality of independent signals simultaneously and k optoelectronic devices are PDs (photodiodes) for receiving a plurality of independent signals simultaneously.

10. The optical communication device according to Claim 6, wherein all the optoelectronic devices are PDs (photodiodes) for receiving a plurality of independent signals simultaneously.

11. The optical communication device according to Claim 6, wherein all the optoelectronic devices are LDs (laser diodes) for transmitting a plurality of independent signals simultaneously.

12. The optical communication device according to Claim 6, wherein m optoelectronic devices are LDs (laser diodes) for transmitting a plurality of independent signals simultaneously and k optoelectronic devices are PDs (photodiodes) for receiving a plurality of independent signals simultaneously.

13. The optical communication device according to Claim 3, wherein the light waveguide is Y-branched waveguides having a first light waveguide, a second light waveguide and a coupling part selectively connecting the first and the second waveguides, an LD is mounted at an end of the first waveguide on the substrate for launching transmitting light into the end of

the first light waveguide, a PD is mounted at an end of the second waveguide on the substrate for sensing receiving light emitted from the end of the second waveguide and producing a photocurrent from the receiving light.

14. The optical communication device according to Claim 13, wherein an amplifier is mounted on the substrate for amplifying the photocurrent of the PD.

15. The optical communication device according to Claim 4, wherein the light waveguide is Y-branched waveguides having a first light waveguide, a second light waveguide and a coupling part selectively connecting the first and the second waveguides, an LD is mounted at an end of the first waveguide on the substrate for launching transmitting light into the end of the first light waveguide, a PD is mounted at an end of the second waveguide on the substrate for sensing receiving light emitted from the end of the second waveguide and producing a photocurrent from the receiving light.

16. The optical communication device according to Claim 15, wherein an amplifier is mounted on the substrate for amplifying the photocurrent of the PD.

17. The optical communication device according to Claim 2, wherein the substrate is a complex substrate being composed of a smaller first substrate of silicon single crystal and a larger second substrate being made of plastic and having a cavity and the substrates are coupled by putting the first substrate in the cavity of the second substrate.

18. The optical communication device according to Claim 17, wherein the optoelectronic device is mounted upon the smaller first substrate and the fiber is supported by both the first and the second substrates.

19. The optical communication device according to Claim 18, wherein the first substrate and the second substrate have V-grooves dug along center lines in longitudinal directions, the fiber is partially held by a ferrule and the ferrule is supported by the V-groove on the second substrate and the fiber is supported by the V-groove on the first substrate.

20. The optical communication device as claimed in claim 1, wherein the light guide is a optical fiber supported in a V-groove made upon the substrate, an LD is mounted at an end of the fiber on a step of the substrate for giving transmitting light λ 1 to the fiber, a WDM filter inserted into a slanting slit cutting the substrate and the fiber for selectively reflecting receiving light λ 2 and a PD is mounted above the WDM filter upon the substrate for sensing receiving light λ 2 travelling in the fiber.